

## ULTRASONIC OPERATIONAL APPARATUS

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**Classification:**

- international: A61B17/22; A61B18/00; A61B17/22; A61B18/00; (IPC1-7): A61B17/36; A61B17/22

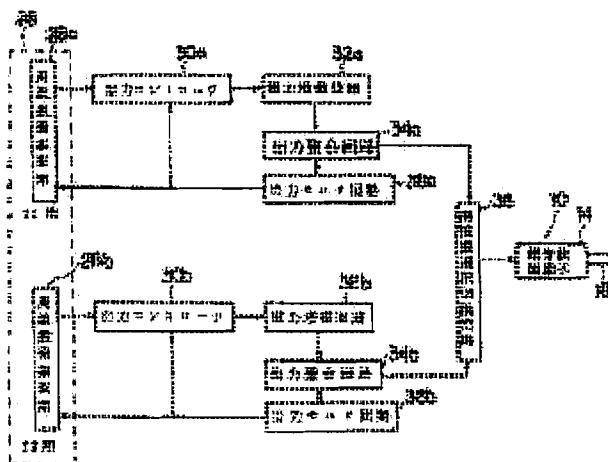
- European:

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### Abstract of JP 7178110 (A)

**PURPOSE:** To provide a safe and easy-to-use ultrasonic operational apparatus which can use a plurality of frequencies according to the state of the affected tissue. **CONSTITUTION:** Signals oscillated by a frequency-oscillating circuit 28a enter an output control circuit 30a, and then enter a frequency-selective switching circuit 36 through a power amplifier circuit 32a and an output matching circuit 34a. Similarly, signals oscillated by a frequency-oscillating circuit 28b enter an output control circuit 30b, and then enter the frequency-selective switching circuit 36 through a power amplifier circuit 32b and an output matching circuit 34b. An operator selects a desired frequency from a plurality of frequencies inputted by the frequency-selective switching circuit 36 without exchanging the ultrasonic operational apparatus, outputs the frequency to a piezoelectric transducer 14, causing the piezoelectric transducer 14 to make ultrasonic vibration, and breaks the affected tissue by the ultrasonic vibration of a chip 18 attached to the tip of the piezoelectric transducer 14.



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